

Fig. 1a

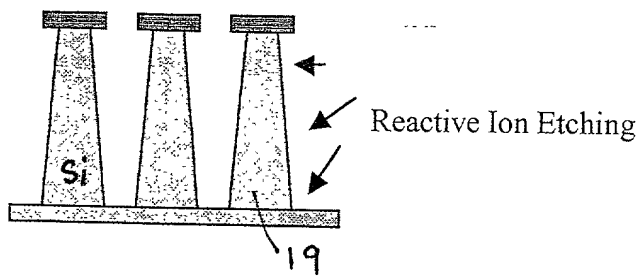


Fig. 1b

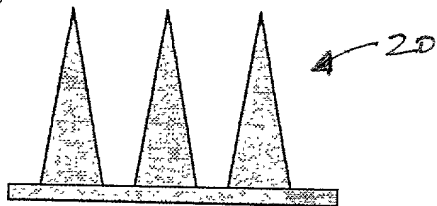
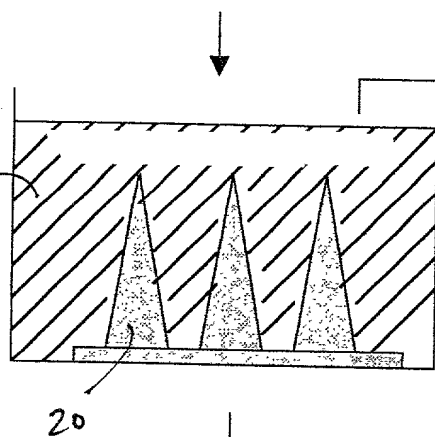


Fig. 1c



Curing

Fig. 1d

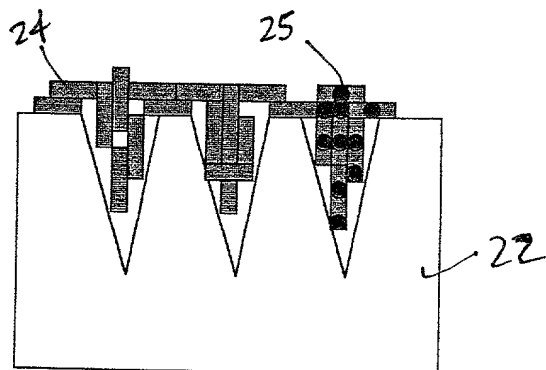
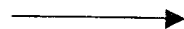
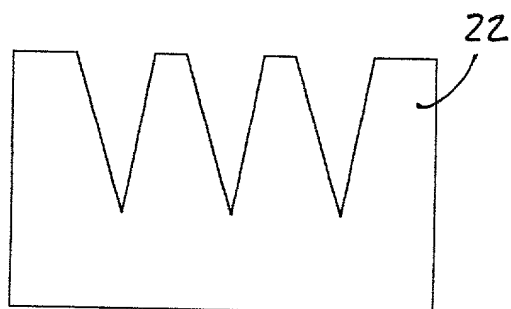


Fig. 1e

Fig. 1

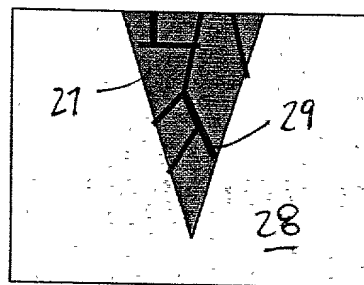


Fig. 1g

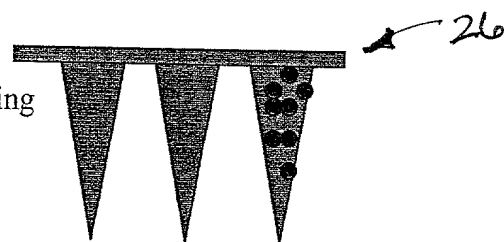
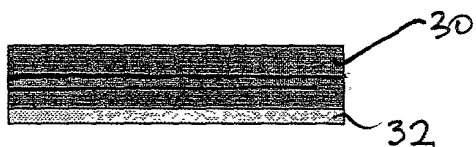


Fig. 1f

Melting and Vacuuming

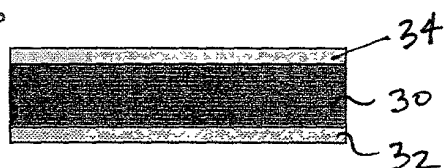
Vacuuming

Fig. 2a



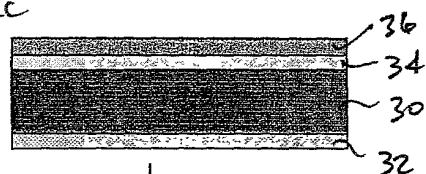
Aluminum deposition

Fig. 2b

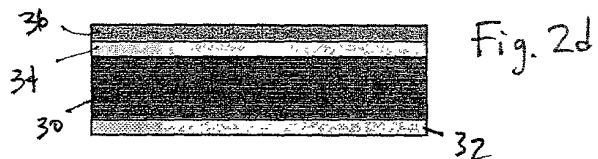


Photoresist Coating

Fig. 2c

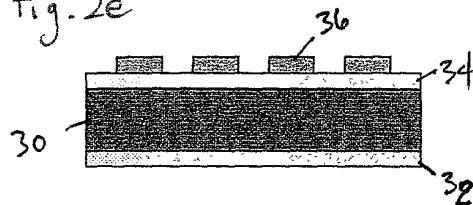


UV Exposure

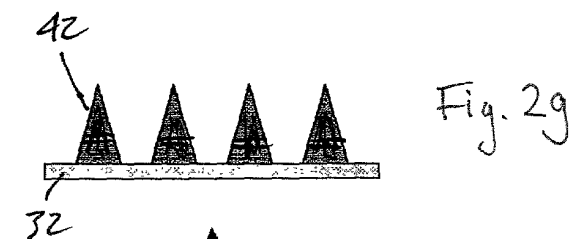


Developing

Fig. 2e



Al etching



Reactive Ion Etching

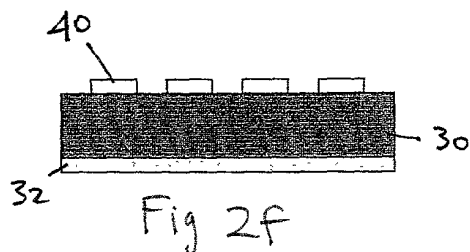


Fig. 2

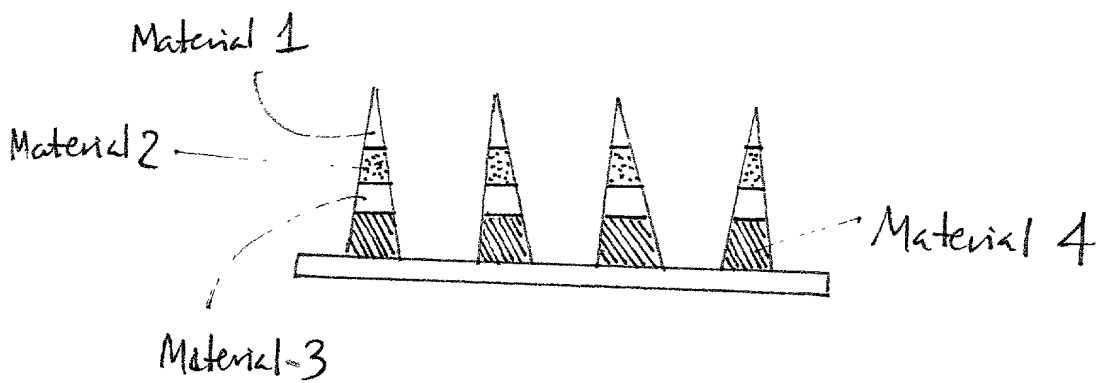


Fig. 3

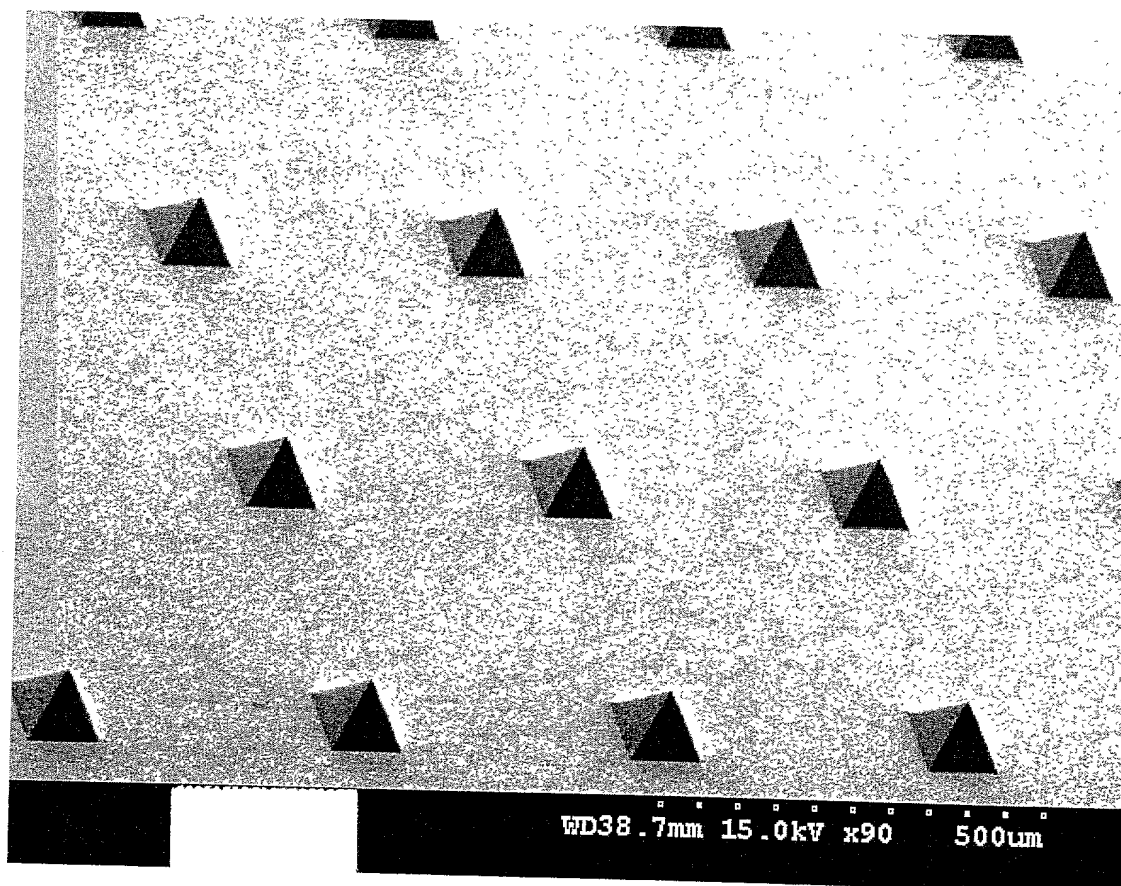


Figure 4

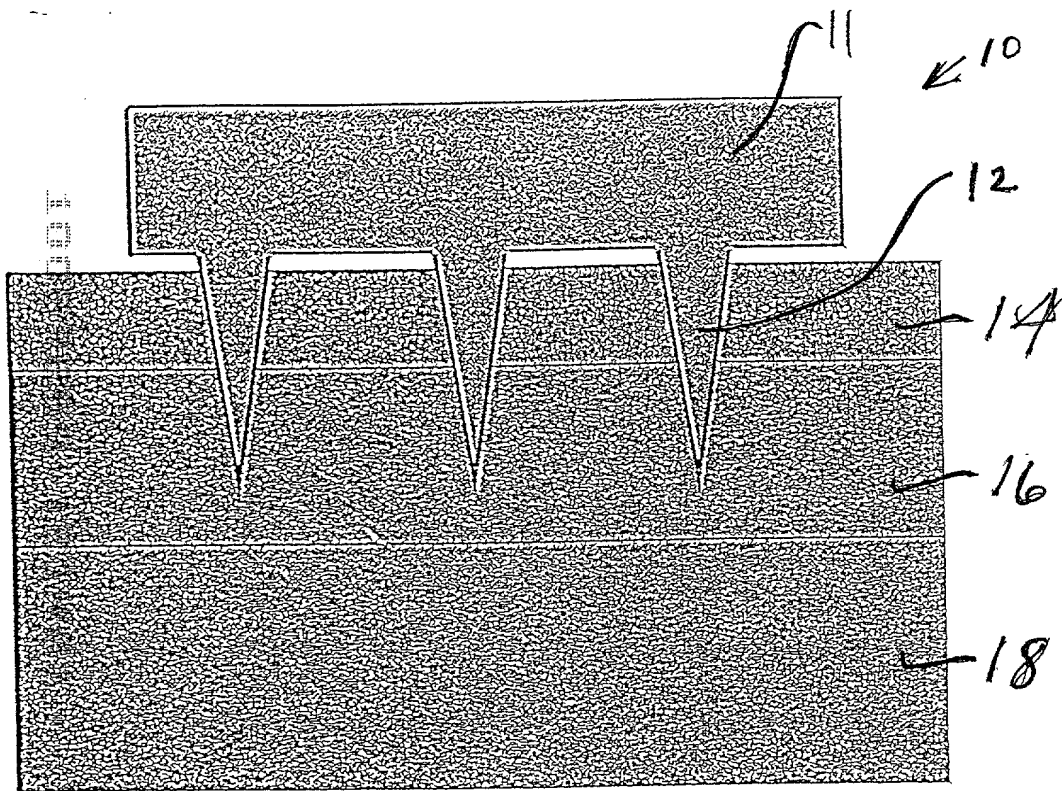
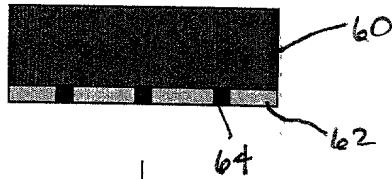


Fig. 5

Fig. 6

Fig. 6a



UV Exposure

Fig. 6b

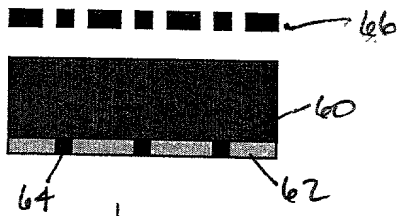
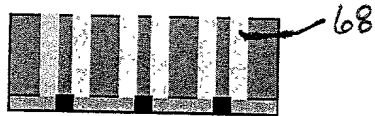


Fig. 6c



Developing of  
Non-X-linked SU-8

Fig. 6d



Silicone mold  
(Poly-dimethyl siloxane)

Fig. 6g

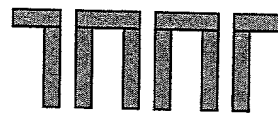
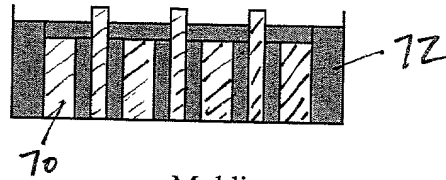


Fig. 6f



Molding

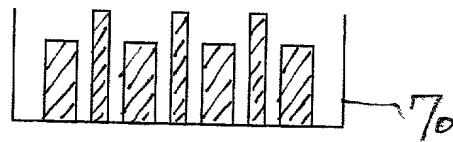


Fig. 6e

Figure 7

Fig. 7a

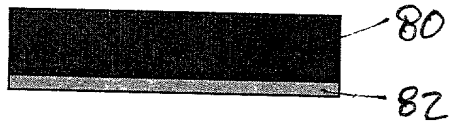


Fig. 7b

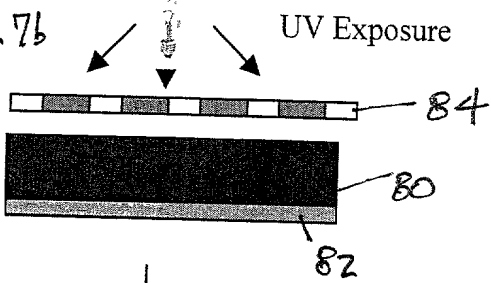
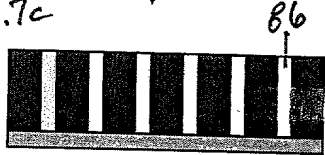
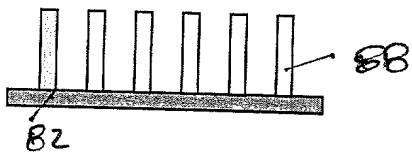


Fig. 7c



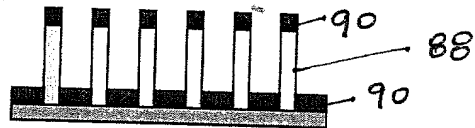
Developing of  
Non-X-linked SU-8

Fig. 7d



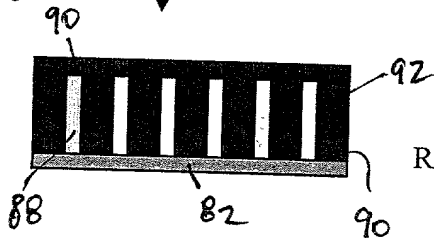
Metal Deposition

Fig. 7e



Filling up with SU-8

Fig. 7f



Reactive Ion Etching

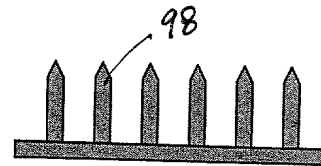


Fig. 7k

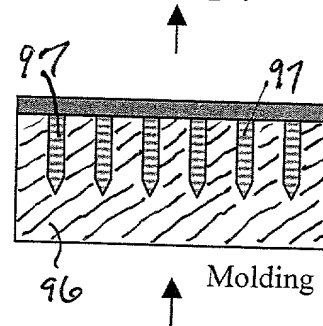


Fig. 7j

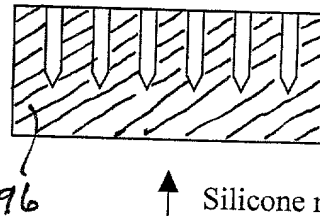


Fig. 7i

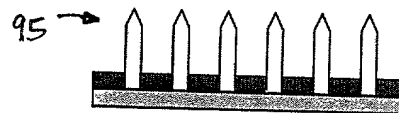


Fig. 7h

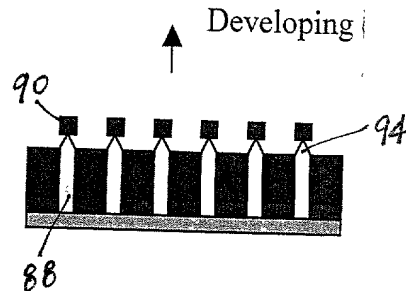


Fig. 7g

# Figure 8

Fig. 8a

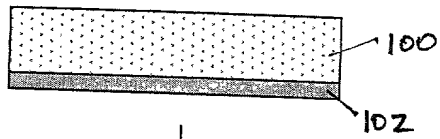


Fig. 8b

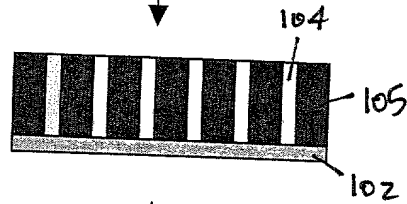
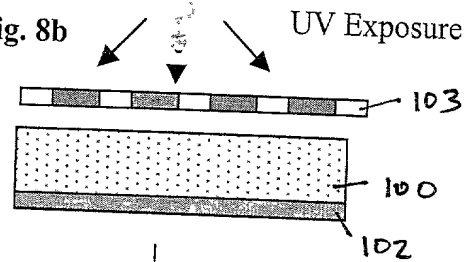


Fig. 8c

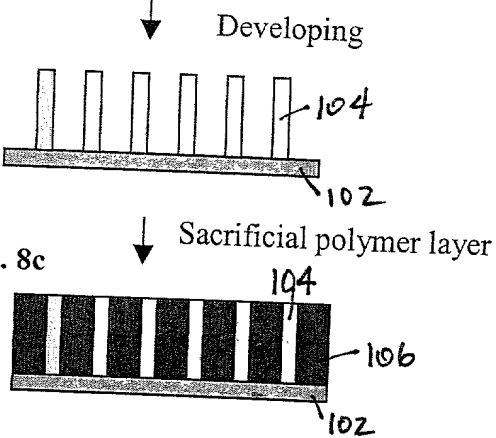


Fig. 8d

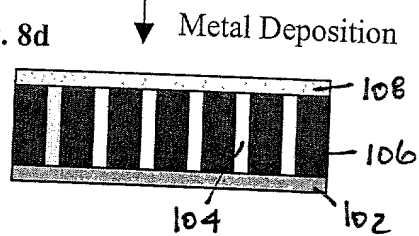


Fig. 8e

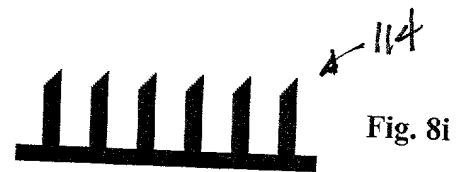
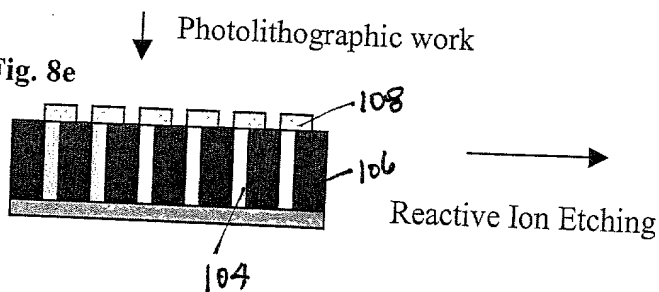


Fig. 8g

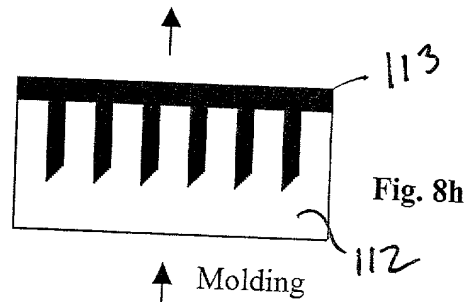


Fig. 8h

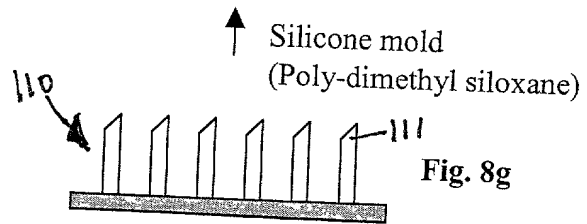
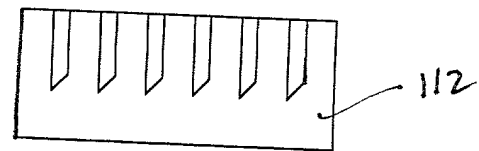


Fig. 8j

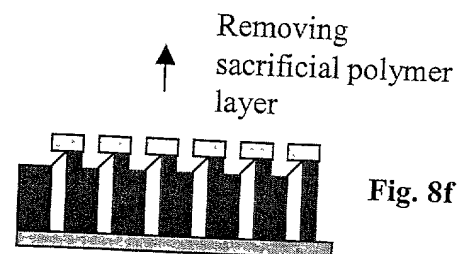


Fig. 8k



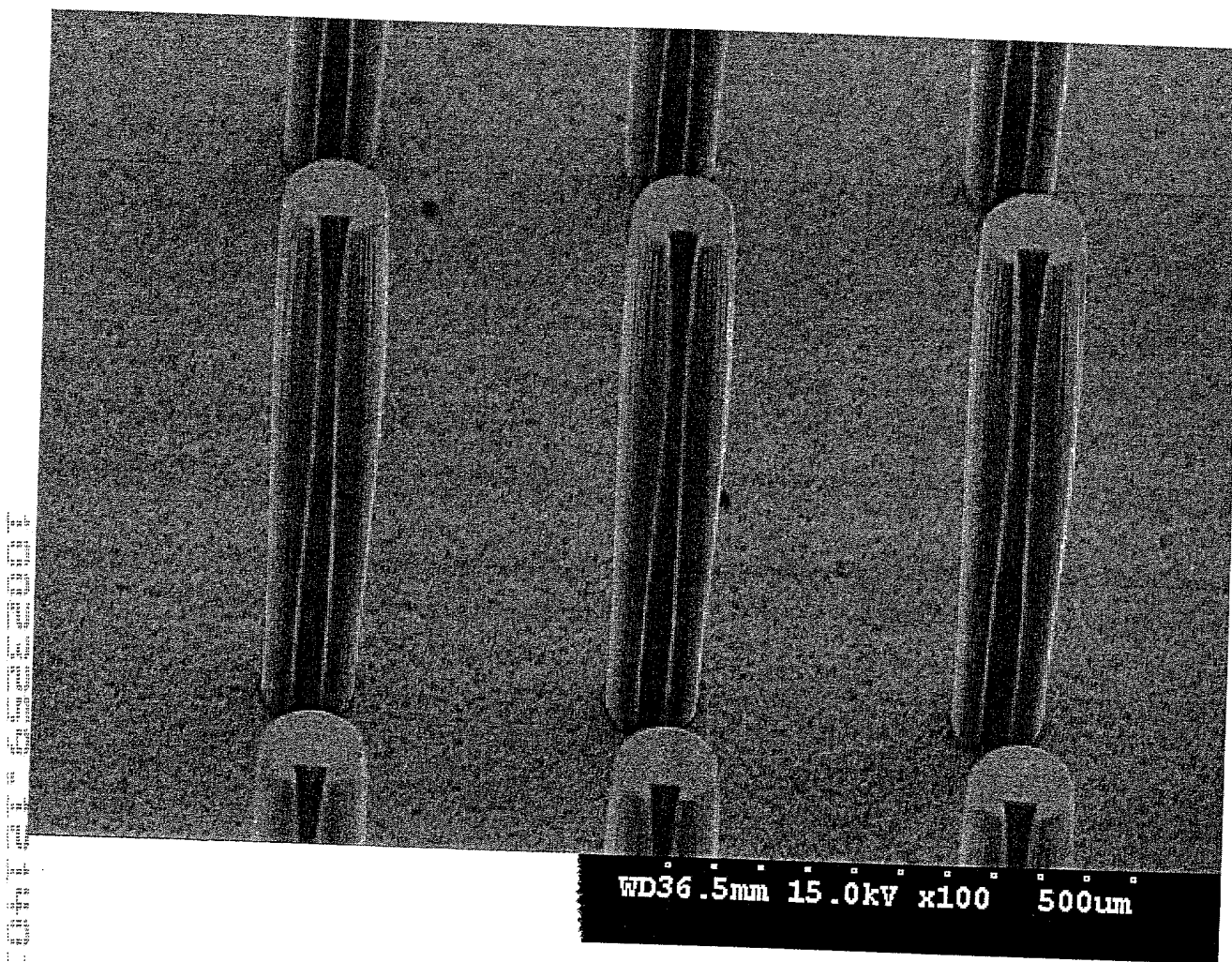
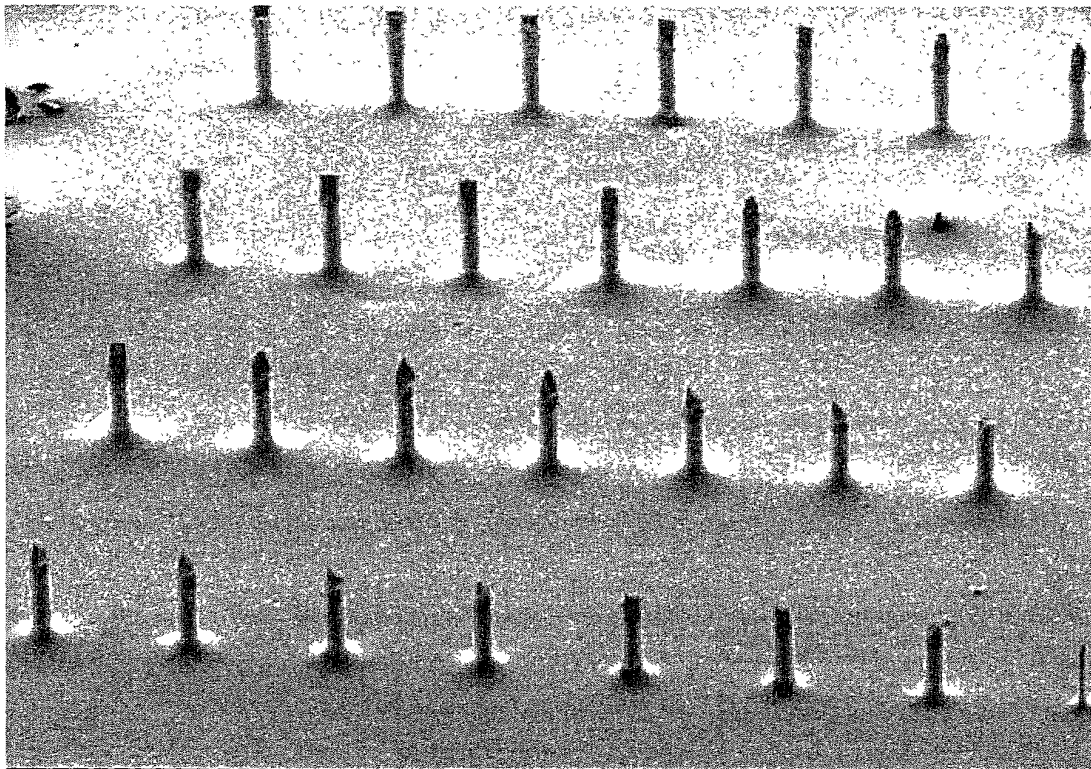
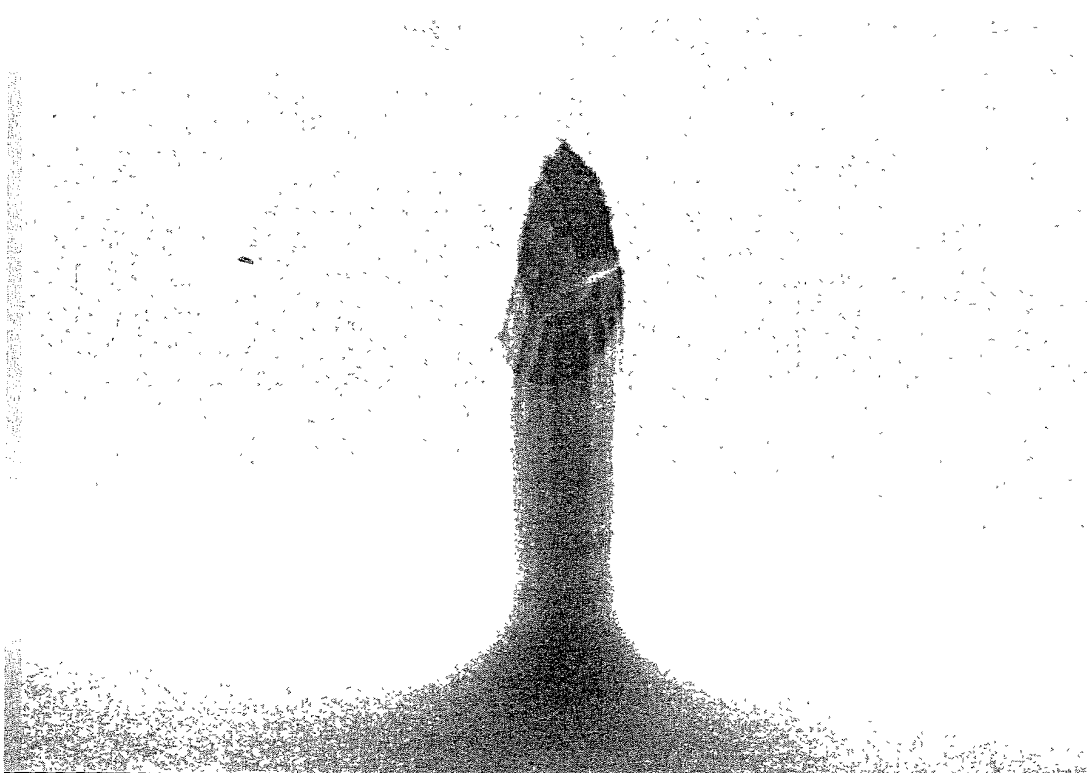


Fig. 9



WD38.9mm 10.0kV x25 2mm

Fig. 10a



WD36.6mm 10.0kV x150 200um

Fig. 10b

Figure 11

Fig. 11a



↓  
Si<sub>3</sub>N<sub>4</sub> Deposition

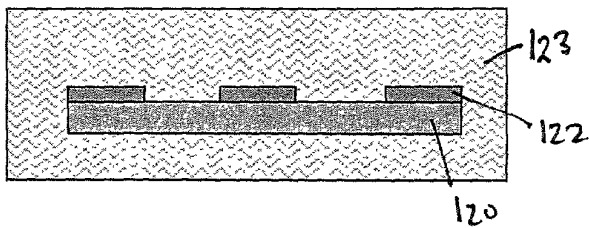


↓  
Photolithographic work +  
Reactive ion etching

Fig. 11b

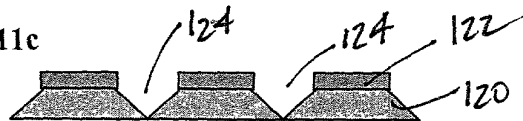


↓  
Put wafer in 33% KOH



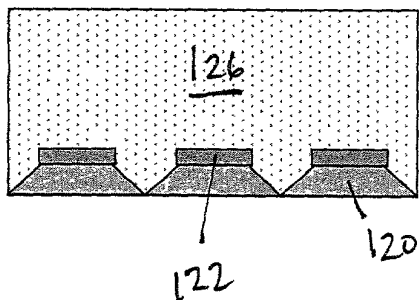
↓  
KOH wet etching

Fig. 11c



↓  
SU-8 epoxy filling

Fig. 11d



→  
Photolitho-  
graphic work

Fig. 11e

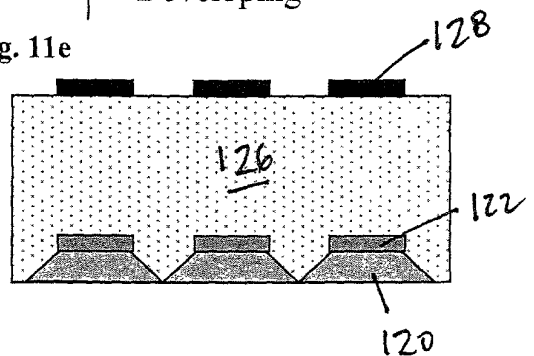


Fig. 11g

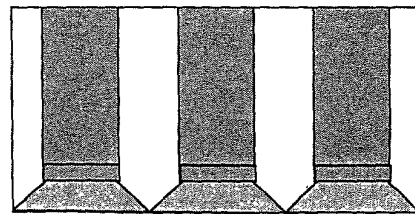
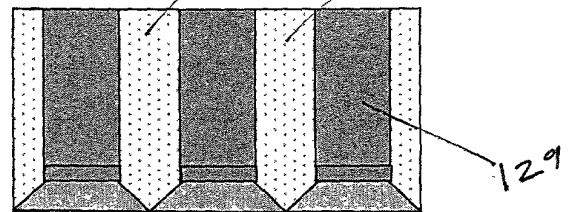
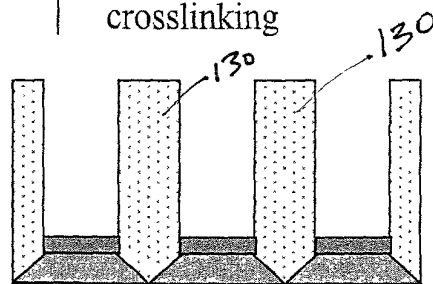


Fig. 11f



↑  
PDMS pouring +  
crosslinking



↑  
Developing

132

129

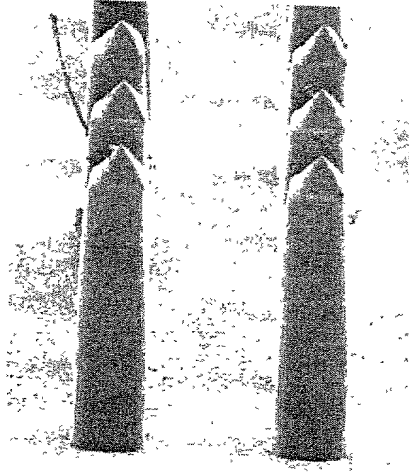
130

128

126

122

120



**Figure 12**